


IV. *Observations on the Mouth of the Eels in Vinegar, and also a strange aquatic Animal, sent in a Letter from the Rev<sup>d</sup> Mr. Henry Miles to Mr. Baker, F. R. S. and by him communicated to the ROYAL SOCIETY: With a Drawing and Description of the said Animal, as viewed in the Microscope, by Mr. Baker.*

S I R,

\* \* \* \*

Read March 10.  
and 17. 1742-3.

I Have now to tell you an Observation I made on one of the *Anguilla* in *Vinegar* (of which, by the way, I have a prodigious Increase, though I lost all by Accident about a Month since, to about a single Drop or two). The Observation was made with the *Camera Obscura* Microscope: First, in a very small Tube, not a Capillary one, though approaching near it, I put a small Quantity of *Vinegar* with several *Anguilla*: At my first Sight of the Image on the Screen, I observed one to have a Motion as if it had been wounded, about the Middle of the Back, if I may so express it; it neither rose nor sunk in the Liquor, but lay in this Form  wriggling itself: I thought it gave Signs of Pain, and would soon expire, which it accordingly did in a Minute's time; but it coiled itself up, and stuck to the Side of the Tube very close, before I was aware: I put out the Liquor, after waiting to see whether it would revive, in vain, and viewed it  
se-

several times in the common Light, which way I had the most distinct Appearance; and must acknowledge the Exactness with which it had coiled itself, gave me no small Pleasure to behold: It would be impossible for me to give you a Description of it, having no Skill in Drawing; but what I chiefly intended to tell you I will endeavour to describe as well as I can: The biggest End, which I call the Head, was stretched out from the rest of the Body, a little Way, as in the Figure, which gave me an Opportunity I had wished for, of examining what Mouth it had. On my first View of it in common Light, I saw what I incline to think may be called the Mouth: Repeated Trials in different Lights and Positions, and with different Magnifiers, confirmed my Suspicion; for I saw no other Appearance of it, than what I ought to expect on such Alterations of the Glasses, &c. I would only add, that after the strictest and most exact Observation I could make, I could discern it to be nothing more than a transparent Tube. Where the Instruments of Nutrition, and the Springs of Life, are, I doubt we shall not soon discover. I once indeed thought, viewing it in the *Camera*, &c. I saw a Blood-vessel, but I believe it was no more than refracted Light, or prismatic Colour.



*a. The Mouth, which seemed to be as wide open as it possibly could be.*

I am sensible my Figure is too small to give you a just Idea of the Shape of the Mouth, but it had the

Appearance which a Tube, or rather a Cone, would make cut slopewise.

I have further troubled you with an odd aquatic Animal, some Specimens of which you will find inclosed, found in standing Water: I kept some of them in their own Element in the House, but they all died in a Day and half's time. They seem to be nothing but Skin, and seem no thicker when alive: They have the Power (as most aquatic Insects have) of sinking themselves to the Bottom on the Approach of a Stick, &c. and fall like a Piece of rotten Wood, or Leaf—When taken out of the Water, if laid on a Paper, &c. they will spring away like a *Grasshopper*. I do not at present remember ever to have seen them before, and know not what to make of them, unless they are the *Tipula*, or *Water-Spider*, not yet arrived at its mature State. I am,

*Your most obliged*

*and very humble Servant,*

Tooting, March  
9. 1742-3.

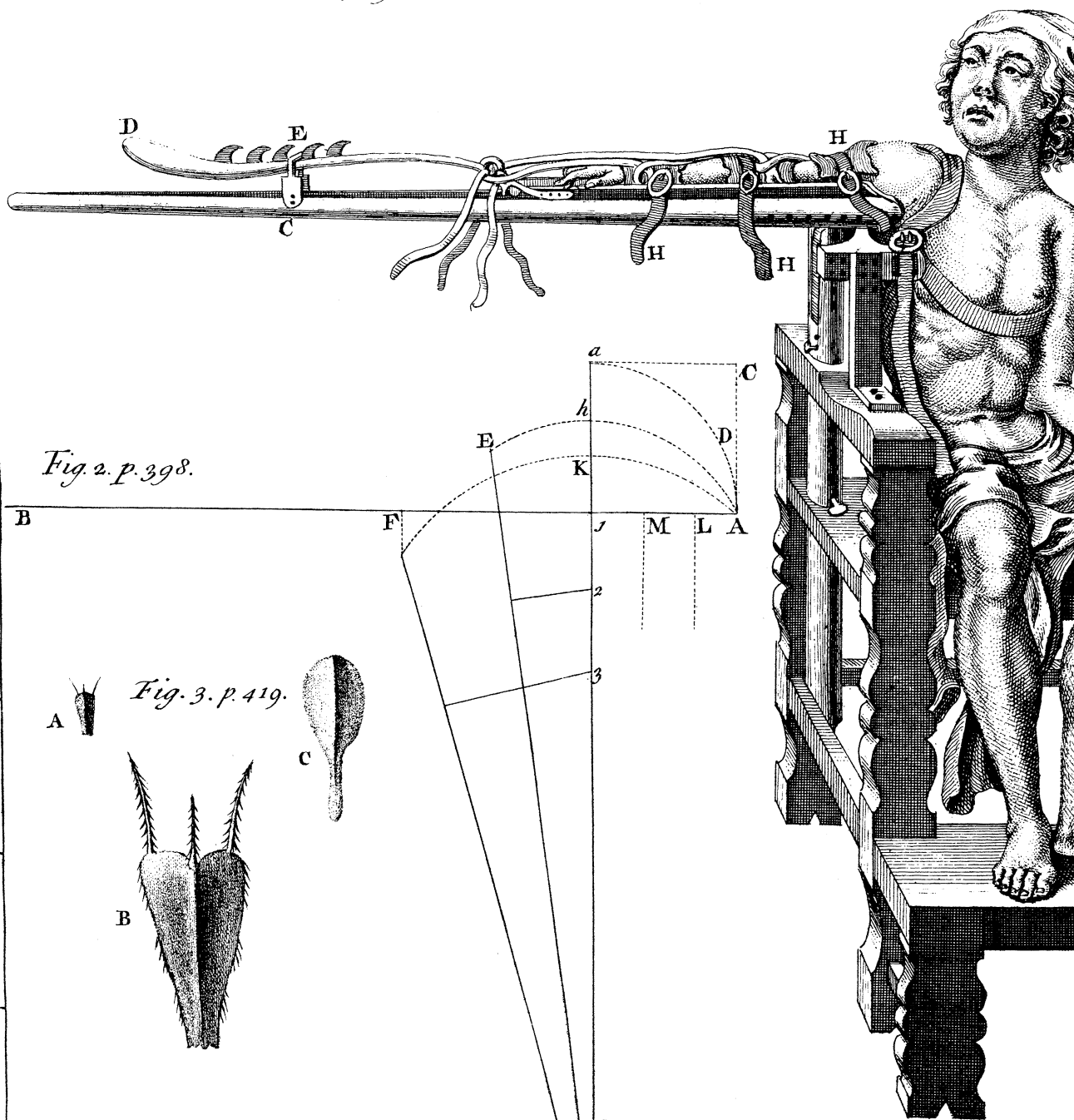
H. Miles.

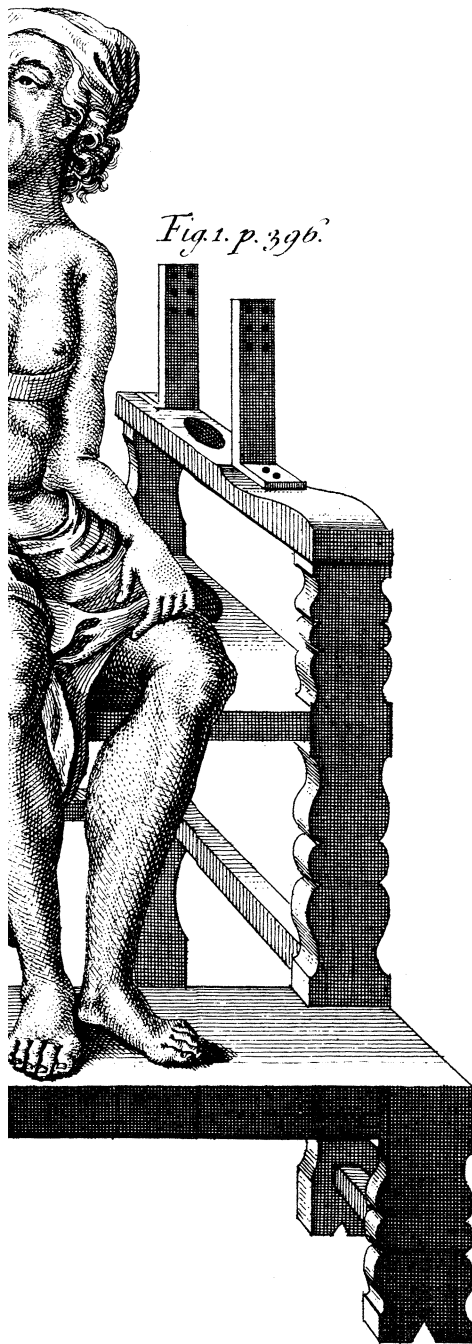
**P. S.** The Animals I send you were caught Yesterday, and kept in Water in a Glass; and when I had finished my Letter, I went to pack them up in Paper, but found none of them left, as I thought, at first; but on a nearer View I found they were all collected together in a Knot, which I took for some Filth in the Water, till I more carefully viewed them, and found them hanging together by the *Tails*.

Ex-

Explanation of the FIGURE by Mr. Baker, *see*  
TAB. IV. Fig. 3.

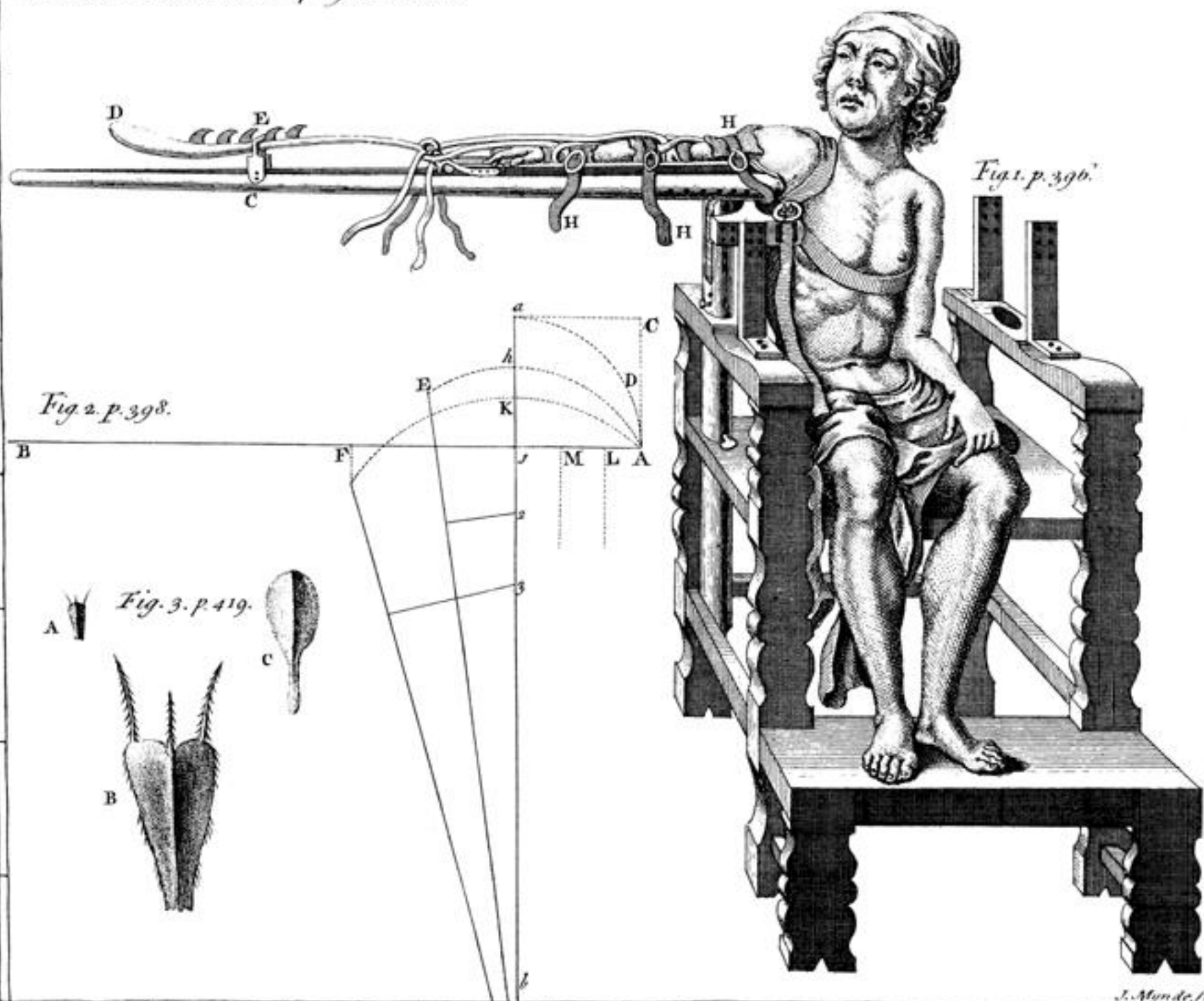
- A. *Represents an undescribed Kind of aquatic Animal, (lately observed by the Rev<sup>d</sup> Mr. Miles of Tooting) in the same Size and Form as it appears to the naked Eye. Several of them were found in the Water of a Ditch; whence being taken, and laid on a Paper, they had a leaping Motion.*
  - B. *The same Animal, as examined by the Microscope, which shews it to be a triangular, oblong, opaque Body, somewhat like the Shape of a Prism, but tapering from End to End. The Three Horns (whereof those on the Sides are a Third Part longer than the Middle one) appear armed with extremely sharp Thorns or Prickles: The same Sort of Prickles are placed likewise along the Sides of the whole Body, pointing downwards, from Head to Tail.*
  - C. *Shews the Form of a Body inclosed in the former, and taken out upon Dissection. This seems to be an Animal in its Aurelia State; and if so, what has been before described is only its Husk or Case, which will be quitted when it comes to change.*
- Quere, What Animal is this in its perfect State?*





*Fig. 1. p. 396.*

*J. Mynde sc.*



*Fig. 2. p. 398.*

*Fig. 3. p. 419.*